impact

Enhanced Insect ID website: Empowering rapid response and long-term tracking

AT A GLANCE

The upgraded Insect ID website enables swift client responses and comprehensive pest data tracking for long term informed decision-making.

The Situation

In pest management, the timely and correct identification of pests and comprehensive tracking of data are crucial for effective decision-making. Stakeholders across various sectors rely on accurate pest identification and data to formulate informed strategies. Without efficient response mechanisms and robust data tracking systems, pest management efforts risk being ineffective or delayed. Often when tracking insect identification responses internally many requests fell through the cracks because they were often only being tracked by email and occasionally by surveys. With our initial Idaho Insect Identification website which depends heavily on Qualtrics and email responses. On average we responded to individuals within three-four days after a submission, but there were also cases where responses were not sent out until up to 50 days following. This occurred because many responses would inevitably get lost in our emails and would require tedious work and effort to find them.

Our Response

In response to the imperative need for improved pest management tools, we developed an enhanced version of the Idaho Insect ID website by working with the

An image of a cicada killer wasp, submitted by a user for ID. Photo by Jennifer Fiorello (used with permission).

University of Idaho Research Computing and Data Services office. This upgraded platform was funded by an innovative project grant. The new site incorporates advanced features specifically designed to expedite response times to clientele inquiries and streamline the tracking of pest data over time. The website has been tailored to help our team respond quickly and keep track of unresolved requests. This improved version leverages technological advancements and ongoing records of all data reported from clientele and the information we are sending out to them. The updated website launched in early 2023. As part of our effort, we survey participants about their experience and how they planned on dealing with the insects submitted.

Program Outcomes

The implementation of the upgraded Insect ID website has yielded significant outcomes in pest management efficiency and effectiveness. On average, we have responded to client requests within 24 hours on business days, leveraging the improved system to generate responses based on past identifications for previously submitted specimens. Since the updated website was launched, we have received a total of 104 insect ID requests, reflecting the growing reliance on our platform for pest identification management support. This highlights the instrumental role of the upgraded system in mitigating unnecessary pest control interventions and promoting sustainable pest management practices.
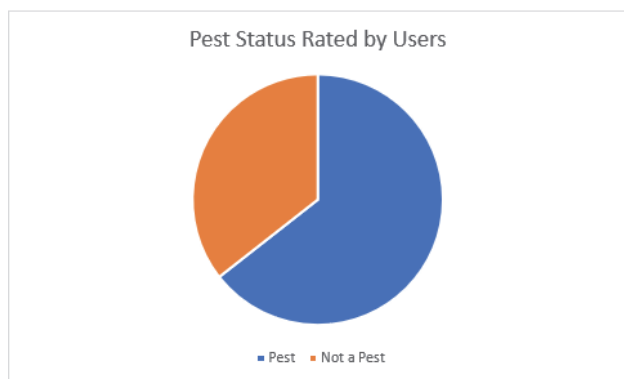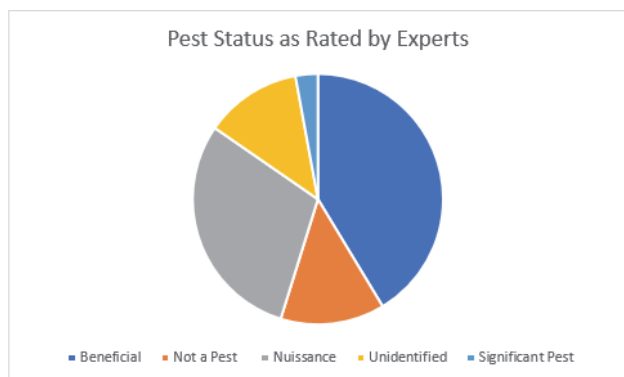

Figure 1 Comparison of Pest Status Rated by Experts (top) vs Users (bottom). As shown above, the majority of users believed the specimens in the images they sent us were significant pests (64%),

but in reality, only a fraction was rated as significant pests (3%) and more were rated as nuisance pests (29%).

Furthermore, over the last year our rapid response capabilities have led to tangible economic and environmental benefits, including the following:

- The prevention of 15 additional unnecessary pest control calls/actions (estimated savings of $3,300).
- The prevention of an additional 18 instances of pesticide treatments that were not warranted (estimated $720).

The most identified insect groups can be seen in the Insect ID table below.

Quantity	Specimen
11	Cicada Killer Wasp (Family: Sphecidae)
6	Jerusalem Cricket (Family: Stenopelmatidae)
6	Horntail Wasp (Family: Siricidae)
5	Aphid (Family: Aphididae)

These insights not only inform our understanding of prevalent pest species but also guide future outreach and educational efforts to address specific pest management challenges effectively. Overall, these outcomes underscore the tangible impact of the upgraded Insect ID website in empowering stakeholders with timely and informed pest management solutions.

The Future

As we move forward, we will use data to help guide future offerings of educational insect or pest management programs by watching trends over time and continuing to improve the website. We also plan to recruit and train additional experts to join our efforts in efficient, accurate and timely identification, management, and control recommendations for clientele.